

# Transportation in a Weather Ready Nation

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# Outline

- Building a Weather-Ready Nation
  - Decision Support Before, During, and After
  - Capturing Requirements
  - Leveraging and Creating Partnerships



# Building a Weather-Ready Nation



*Becoming a Weather-Ready Nation is about building community resilience in the face of increasing vulnerability to climate, water and weather impacts.*



WY DOT – mudslide closed road due to heavy rains

NOAA's NWS, in collaboration with partners, is developing new decision support services, improving science and technology for environmental prediction, and expanding its communication capabilities to achieve far-reaching national preparedness for climate, water and weather events.

# WRN Way Forward

## How NOAA/NWS Plans to Act

- Provide pro-active engagement, expert decision support and foundational information services
  - *Build local relationships with Core Partners to help better prepare for extraordinary and high-impact events*
- Emergency Response Specialists (ERS) and Learning
  - *Increase accessibility on-site and through remote technologies to enable Impact-based Decision Support Services (IDSS)*
  - *Provide expertise in coordination with states, private sector and academics to support decisions for safe operations and maintenance from the national to the local level*
  - *Train to “speak the language” and understand the impacts*
- Invest in Science and Technology
  - *Work with partners to exploit state-of-the-art technology and cutting-edge science to promote comprehensive observations and to provide the best service possible before, during, and after events*

# Before, During and After

- Save lives
- Avoid costs
- Strengthen resilience
- Promote growth/recovery



Wisconsin DOT



Kansas DOT – after Tornado

# Before, During and After Climate-Weather Linkage

- 3 Time scales (for NWS services)
  - Short – real-time to days
  - Medium – weeks to months
  - Long – months to 2-5 years (emerging services)
- Cascading events
  - Transportation operations
  - Preparation and planning
  - Maintenance
  - Response
  - Restoration/Recovery



Iowa DOT with National Guard – Flood

# Capturing requirements

## Public-Private Value Chain

- Foundational data/information
- Value added
  - Targeted/localized
- Range of services
  - Space weather
  - Floods/droughts
  - Marine/coastal
  - Climate
  - Ecological



# Capturing Requirements

## Integrated Observations and Modeling

- Comprehensive
- Networked platforms and sensors
  - Mobile and stationary
  - Remote and *in situ*
- Two-way
- Surveillance and Tracking Networks
- Volunteer Networks
- Data policy and exchange



# Creating and Leveraging Partnerships

## Consistent Impact-based Messaging

- Information management
  - Common message content
  - Dynamic signage
  - Webpages
  - Social media
- Coordinated Local focus
  - Good and best practices
  - “Partnership Approach”
    - NWSChat
    - Social science/modify behavior
- Decision support framework
  - Risk-informed services and tools



TX DOT



NC DOT - Hurricane

# Creating and Leveraging Partnerships

- **Survey and Capture Requirements for Impact-based and risk-informed** services for Transportation in a WRN
- **Enhance outreach and pro-active engagement – improve routine communication**
- **Identify locations to strengthen and extend best practices**
- **Demonstrate progress through Pilot Projects – volunteers?**

